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ABSTRACT

Historically most tutoring studies have been concerned with the impact on the students being tutored. Recently there has been a tendency to look at the impact on the tutor and even to focus the program on that impact. A few recent studies have been concerned with discovering ways to improve the program itself. It has not been possible to isolate the factors which lead to success for the tutors, and in some cases they seem to have been successful in spite of the conditions in which they worked. The focus of the materials and skills has been on the tutee even when the researcher's major concern was with the tutor, and the teachers of the tutors adjust their curriculum to support that of the teachers of the tutees, so that the older students can tutor them. These generalizations suggest that classroom teachers can take advantage of the effect of tutoring upon the tutor through the commonalities that exist within the school curriculum and can encourage tutors to acquire new skills. In tutoring the younger students, the tutor is provided with a unique opportunity to transfer such skills from a knowledge level of learning to an application of knowledge through the principle of learning through teaching. By cooperation at the teacher level, both groups would benefit with the tutor gaining more from the experience than he has done in the past. (MBM)

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TUTORING by STUDENTS: WHO BENEFITS?

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TUTORING by STUDENTS: WHO BENEFITS?

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PREFACE

Alert educators are constantly seeking new and better ways of improving the educational process. Many times we find ourselves picking up old ideas, adding new dimensions and using them as innovations in education. While the concept of tutoring has been with us for many years, a new dimension has been recognized and become popular in education circles. This dimension is that the tutor as well as the tutee benefits from this experience. Since schools are using this type of educational experience more and more, the officials of the Florida Educational Research and Development Council felt that a summary of research on this topic would be of value to school people.

As the reader analyzes the various studies reported in this bulletin, he will be able to draw his own conclusions about the type of tutoring experience that would be most valuable in his situation. A brief discussion of each study is included. However, the bibliography supplies the original source of these materials from which the reader can secure a complete report.

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J. B. White, Executive Secretary

January, 1972

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TUTORING by STUDENTS: WHO BENEFITS?

A study of the research in the area of tutoring reveals emphasis in several directions. A great deal of tutoring appears to be directed toward the disadvantaged populace. The disadvantaged are being tutored preschool, in school, out of school, and after school. Tutoring is also being used to build up a tutor-pupil relationship for academic purposes, for counseling, to aid social workers gain insight into the pupils' backgrounds, and to help the emotionally disturbed.

In addition to the traditional concept of tutoring where teachers help individual pupils, there appears to be a tendency for educators to experiment with the use of paraprofessionals for tutoring purposes. (Vellutino & Connally, 1971.) In some cases, tutors are parents, housewives, high school dropouts, education majors, college students, or neighborhood volunteers. One paraprofessional who is readily available and is gaining more recognition in recent years is the classroom student.

TUTORING IS AN OLD CONCEPT

The practice of students helping each other has been written about for a long time. An excellent account of such student participation was described thoroughly by Wright (1960) in the article, *Should Children Teach?*. As early as the first century, the Roman teacher, Quintilian, pointed out in *Institutio Oratoria* how much the younger children could learn from the older children in the same class. In Hindu schools, the use of mutual instruction dates back to ancient times.

Likewise there has also been an awareness that the act of teaching is beneficial to the teacher. More than three centuries ago, Comenius observed:

> The saying "He who teaches others, teaches himself", is very true, not only because constant repetition impresses a fact

> indelibly on the mind, but because the process of teaching itself gives a deeper insight into the subject taught . . . The gifted Joàchim Fortius used to say that . . . if a student wished to make progress, he should arrange to give lessons daily in the subjects which he was studying, even if he had to hire his pupils (John Amos Comenius, *The Great Didactic,* in Wright, 1960, p. 354).

However, in most student-to-student tutoring, the emphasis has usually been on the child being tutored. In 1791, Andrew Bell utilized mutual instruction because he had been unable to get adult teachers to teach in the manner in which he wanted them to teach. But the person who did the most to spread the idea of monitorial instruction in education in the 1820's was Joseph Lancaster. Under the Lancastrian System, the teacher instructed a group of older students who in turn would drill younger ones on the lesson. However, Lancaster's system lost popularity because he concentrated so much on the economic advantages of the system that he ignored the educational potentialities, and the system became grossly overmechanized.

At about the same time, William Fowles began experimenting with the monitorial system. Not only did he recognize the educational potentialities of the system to the tutees, but he recognized the impact that the act of tutoring could have upon the tutor as well.

> Teaching is learning, and learning of the very best kind. I appeal to teachers and ask whether every faithful attempt to teach the children under their care does not increase and improve their own knowledge . . .
>
> The art of teaching depends more upon adapting the explanation to the capacity of the learner than upon the amount of knowledge accumulated by the teacher. Is it unreasonable then to suppose that the explanations of children may sometimes be better suited to the understanding of children than those of adults would be: I am not ashamed to own that I often called upon my monitors to explain what I had failed to make a little scholar apprehend (in Wright, 1960, p. 356).

Fowles appraised his pupils' skills carefully and appointed only the proficient as pupil-teachers or monitors. However, he managed to give nearly every child some opportunity to teach. "No child, but the very lowest, was so low that she could not teach something, and that something I always required her to teach" (in Wright, 1960, p. 357).

In the late 1800's and early 1900's, there is only occasional written record of students tutoring each other. The few articles reported in the literature reflect the use of good students tutoring poor students. Horst (1931-1933) wrote about the successful program at West High School in Akron, Ohio, set up through the student council. The tutors were good students who had been selected by the teachers. David (1938) wrote about his success with the tutoring program at Collinwood High School sponsored by the National Honor Society.

Wayne (1956) reported not only on the success of his tutoring program which utilized the services of honor students to tutor business students who were not doing very well; but Wayne also indicated that the tutoring was helpful toward directing the tutors into teaching as a profession.

In recent times, the idea of tutoring by students seems to have gained enough momentum that the literature is flooded with programs going on in the schools. In fact, so much is being done that articles setting forth the ways by which the classroom teacher can use the services of the student tutor to the greatest advantage have been published (Dahlen, 1970). Student tutors have been used over the country in both public and private schools to help other students in areas ranging from reading to Holy Communion (Benedict, 1969).

A NEW CONCEPT OF THE VALUE OF TUTORING

The past tendency of the tutoring programs was to utilize good students, but today there is a growing trend to involve the poor students as tutors. When Ackerman (1969) researched the effect of sixth-grade tutors on the arithmetic achievement of third-grade students, he found no significant differences in improvement rate among the subjects. But he did discover that "the background of the tutors seems to be of little consequence in that the tutees of the low achieving tutors performed equally as well as the tutees of the high achieving tutors" (p. 918-A).

Underachieving Students as Tutors

The use of fifth and sixth graders as tutors for younger children was reported by Stauffer (1967). Some tutors were given directions, others were given none; the former group seemed to do best as mistakes were reduced, and they had a sense of secur-

ity. Both tutors and tutees showed gains in reading. However, it was found that both capable and not very capable students functioned well as tutors; often the latter did best due to their greater sympathy for the tutee.

A study in Grove City, Ohio, (O'Bryan, Williams, & Lowe, 1968; South-Western City School District, 1967; Williams & Burnett, 1969) was carried out to prevent educational deprivation during the first five years of life. The use of teenage seventh graders with kindergarten pupils and the resulting interrelationship with the parents were considered new developments toward meeting the fundamental needs of children and breaking the cycle of succeeding generations of children handicapped by educational deprivation. Teenage tutors who were both poor and average academically were used successfully.

Cloward (1967b) studied the New York City Board of Education-Mobilization for Youth Homework Helper Program in which low-income tenth and eleventh graders were paid approximately $1.40 per hour to tutor fourth- and fifth-grade minority students who were below average in reading. Cloward's study was designed to determine whether students who had not completed high school could serve effectively as tutors. Meeting in Homework Helper centers under the guidance of "master teachers," the tutors attended two weeks of orientation sessions, then met once or twice a week on a one-to-one basis to tutor. Cloward found that not only did the tutors do an effective job, but that significant change was found in their own reading scores. When compared with a control group, the tutors showed a mean growth of 1.7 years over the control group in a 7-month span of time. Cloward's conclusions were that tutors do not have to be highly trained or successful students. The major impact of the tutorial experience was on the tutors themselves. Thus, Cloward suggested that high school dropouts might be employed as tutors not just to help underachievers but to improve their own academic skills. He believed assigning tutorial roles to such adolescents might help them to make learning enjoyable and profitable.

Since these data demonstrated the impact of the tutoring experience upon the tutor, the present Homework Helpers Program has a different emphasis than the one in operation between 1963 and 1964 which Cloward evaluated. Under the auspices of the Center for Urban Education (1969), the Homework Helpers

Program has expanded to 100 centers in New York City serving 1,500 tutors and 4,500 tutees. Though the basic training is the same, the purpose now is to help the tutors as well as the tutees by giving the tutors experiences of success.

Growth of Tutors

Concern about the tutor seems to be an increasing trend. Though the majority of the tutoring programs still appear to focus on the effect upon the tutee, there tends to be more and more studies pointing out the positive effects upon the helper. Bell, Garlock, and Collela (1969) set up a tutoring program in Oneida Consolidated School District to help elementary students who were achieving below the achievement level of their respective classes. High school students were selected as tutors on the basis of having some competence in their tutorial subject. Tutor preparation was done through specific recommendations given the older child by the referring teacher. The program was evaluated through analysis of questionnaires and found to be quite successful for all concerned. However, the most "obvious and immediate impact of the program has been on the high school tutors" (p. 244).

Tutoring is not limited to the elementary and secondary schools. Bakersfield College Student Tutorial Project (Hernandez, 1969) had college students tutor disadvantaged elementary and junior high students after school in reading, English, math, the Constitution, and other areas. An evaluation of the project was drawn from the questionnaires completed by the tutors and from the tutors' journals. It was concluded that the tutorial project was extremely valuable for both tutors and tutees.

With the increased knowledge of the positive effect on the older child, it is not surprising that more is being done in recent times to devise programs which capitalize on this effect. Holy Childhood School (Geiser, 1969) set up a program using students with behavior problems from the first four primary grades. A 45-minute tutorial session was held in the primary classrooms as infrequently as once a week or as often as daily. Each tutor taught the subject area with which he was having the greatest difficulty, usually reading or math. One immediate result was that, though behavior sometimes changed very little in other classes, teacher attitudes toward the student changed when they saw that under different conditions the tutors could act in a con-

structive manner. With evidence showing that "children tend to perform in the manner in which their self-concepts are influenced by teacher behavior" (Spache, 1970a, p. 14), the educational implications are apparent. At any rate, Geiser (1969) went on to emphasize this point by stating ". . . even a needy child needs to be needed. A child who is deprived of opportunities to help others has his self-image as a worthless person unwittingly reinforced" (p. 20).

Another concrete benefit of the tutorial program seemed to be the tutor's positive identification with the teacher's role; this caused increased empathy for the teacher when the tutors were faced with pupils who would not learn. The tutor used his better rapport to reach the child where the teacher could not. Thus, through active involvement in helping another learn, the tutors learned to change their own attitudes toward learning and experienced the satisfaction of helping others.

Moon and Wilson (1970) carried out a project in Brooklyn, New York.

> The goal of the project was to raise the self-image of the fifth grade children by giving them the responsibility of helping the first grade children who were having difficulty in school, and providing them with the individual attention they needed (p. 365).

The outcome of the project was a rewarding one. There was an average gain in the fifth-grade class of 1.9 years in the reading scores over the previous years. Also discipline problems decreased, cooperation increased, and interest in school became more apparent.

At Joel E. Ferris High School in Spokane, Washington, high school students worked as tutors with culturally deprived elementary school students. The Tutorial Reading Class (Anderson, 1970) was an elective one open to all high school students with special invitations given to the underachieving students. The first few weeks of the class were devoted to acquainting the secondary school students with the needs of the elementary school students and in discussing various aspects of learning. At the conclusion of the training seminars, the high school students seemed to feel that the affective domain learning preceded cognitive learning. The results showed attitudinal changes in the older students as well as significant gains in the basic skills as

measured by objective pre- and posttest results of all the students participating in the program.

Youth Tutoring Youth is a project sponsored by the Manpower Administration (1968a, 1968c, 1969) in which teenagers who were not achieving well in school and had fallen below grade level in reading were trained to serve as tutors for elementary school children from disadvantaged neighborhoods. The program was developed to encourage positive attitudes in tutors towards going to school, holding jobs, and helping others. Subjective evaluation of the program has shown that when underachieving youths are used as tutors both they and the tutees made progress in gaining a sense of work responsibility, an appreciation of learning, improved literary skills, and motivation to work and stay in school.

The "One-to-One" tutorial project of the Los Angeles County Schools Office (Landrum & Martin, 1970) was based on the hypothesis that the process of teaching was an effective method of learning. Using O.E.O. funds, the program's objectives were to increase the tutors' mean reading grade placement, to reduce absenteeism from what it had been for the tutors during their preceding school year, and to keep the tutors in the regular school the following year. Thus, tutors were paid to tutor fourth, fifth, or sixth graders who were behind in reading during a six-week summer term. The only factors considered in tutor selection was that they be two or more years below grade placement as measured on standardized reading tests; that they were either high school dropouts or those who were prone to dropouts as indicated by absenteeism, failing grades, or stated intent; and that they had low family income in conformance with the policies of the funding agency. Each tutor worked in a tutoring unit which was assigned one teacher-supervisor and from five to seven tutors. The teacher-supervisor trained the tutors in the use of a variety of materials, equipment, and methods. He reviewed each tutor's lesson plans and helped the tutors to assess the progress of their tutees. This model was tried under varying circumstances of 16 school districts over a period of three years. Gains in reading achievement scores consistently exceeded the expectations. The available data made it apparent that the tutor was more apt to attend school regularly, to obtain passing grades, and eventually to complete high school than those similar students who did not tutor.

In the crash program held in Los Angeles (Crenshaw Community Youth Study Association, 1968) in the summer of 1968, 80 economically deprived tutors, selected on the basis of low reading achievement scores and teacher recommendation, were trained to tutor third through sixth graders. Also participating were 20 middle-income youths. Training sessions involved learning theory related to reading deficiencies, programming techniques using the word attack system, and practicing teaching techniques. Tutors worked in groups of 5 to 10 students. The tutors were heterogeneously grouped according to reading ability; their students were homogeneously grouped. The greatest number of tutoring sessions which any pupil could have attended was 16. Pre- and posttesting on various forms of the word knowledge and reading sections of the Metropolitan Achievement Test showed average improvement for the tutors to be .8 grade level, while that of the tutees was 1.0 grade level.

Tutoring in Teacher Education

With the favorable consequences of tutoring programs upon the tutor, more tutoring projects have been aimed at helping the tutor *rather than* the tutee. This emphasis is actually identical to the emphasis which educators long ago placed upon preservice teachers in the teacher-education programs. Most field experiences prior to practice teaching exemplify the idea of student-to-student tutoring with emphasis upon the tutor. That professional educators believe tutors benefit from tutoring can be seen by the increasing emphasis on this type of field experience in the teacher-education programs. For example, "Learning to Teach: Focus of Direct Experiences" (New Jersey State Department of Education, 1969) discussed field experiences ranging from precollege, and pre- and poststudent teaching, to the actual student teaching. In this report, after a two-year study, a joint committee on teacher education in New Jersey reported on the need to focus on providing the education student with field experiences in working with children and youths.

Hazard (1968), as director of the Tutorial-Clinical Program for Teacher-Education at Northwestern University, based the entire teacher-education program upon field experience. This is a four-year experimental program in which all instruction in the art of teaching is given through tutorial and related clinical ex-

periences rather than through formal course work in professional education.

Klosterman (1968) used students majoring in elementary education as tutors for a diagnostically structured reading program for fourth-grade pupils. In addition to being valuable for teacher education, the tutoring helped the fourth-grade students make significant gains in vocabulary, comprehension, and total reading achievement. It was discovered that individualized tutoring proved more effective for the tutees than small group tutoring.

"Project Scranton" (Levine & Donlan, 1966) was a tutoring program developed for first-grade, inner-city children employing student teachers as tutors. Though results proved no discernible effect upon the tutees, the regular classroom teacher rated the tutored children as more competent in the classroom, more confident, and more benevolent. Over a period of time, the student teachers saw their children eventually becoming more responsive. Also, though the student teachers maintained favorable attitudes toward teaching in the inner city, and claimed to have benefited from the tutoring experience there, relatively few actually took positions in inner-city schools after completing their training.

One of the latest designs in teacher-education tutoring seems to be the microteaching developed by Dwight Allen at Stanford University (Allen & Gross, 1965). Allen's program was designed to use video-tape recordings to evaluate a teaching encounter scaled down by length of instruction period and size of group instructed.

Even though educators seem to believe enough in the value of tutoring as a field experience for the tutor to include usage of this concept in the teacher-education program, the amount of concrete data actually proving the effectiveness of the concept is sparse. Thus, though the teacher education programs give ample subjective evidence that tutoring is beneficial to the tutor, the research shows that there are very few programs which seem to have objectively measured the success.

Walberg, Metzner, Todd, and Henry (1968) studied the effects of tutoring and practice teaching on self-concept and attitude in education students. One of the objects of the study was to examine the effects of tutoring upon the education student; another object was to contrast the effect of tutoring with the

effects of practice teaching on both self-concept and attitudes. Results showed that conflict between the personality need to establish rapport and the role demands to establish authority and discipline in the professional guise of the teacher during practice teaching lowered self-concept. The tutoring situation caused the teacher to feel less pedagogical and more identifiable with the students. The tutors were less controlling and more pupil centered because of the intimacy of the tutoring situation; they also tended to be less idealistic, perhaps, because of the new awareness of the realities of teaching. The modified Minnesota Teacher Attitude Inventory plus two other measures used in the study pointed out significant differences which supported the hypothesis that tutoring was beneficial for the education students.

Ingle and Zaret (1968) wrote that tutoring in the inner-city schools made the tutors very realistic about the teaching there, lowered their self-concepts, and did not tend to encourage them to obtain positions there after they finished their programs. In a second research with Harmon (1970), Ingle studied the comparison of attitude changes by education juniors after tutoring in urban and suburban secondary school. The purpose of the tutoring was aimed at the tutor in an attempt to discover ways to head more teachers into the inner-city schools where there was a shortage of teachers. They found that the tutors in the urban schools showed greater gains on the Minnesota Teacher Attitude Inventory than did the tutors in the suburban schools. Hence, Harmon and Ingle concluded that more needed to be done to isolate the variables within each tutoring situation, if tutoring was to be used as a method of directing a prospective teacher toward a particular type of teaching.

Hunter College in New York City developed a program based on the benefits of the cross-age effect (Hunter, 1968). It was held in a public school as part of a methods course in which college students taught fifth- or sixth-grade youngsters how to tutor first- or second-grade youngsters. This gave the college students an opportunity to teach youngsters, to study their own teaching, and the teaching of the older child as he tutored the younger child. In addition, this gave the college students an opportunity to work with two age levels of children, helped them to learn to act as consultants to older children teaching younger children, and introduce them to the practice of encouraging youngsters to help each other learn.

CROSS-AGE TUTORING AND THE NEW CONCEPT

Cross-age tutoring is that process where members of one age group teach members of another age group. Hence the field-experience tutoring in teacher-education programs is actually a cross-age tutoring process and also is consistent with the concept of putting the emphasis on the tutor as in the lower grade student-to-student tutoring.

There seems to be an increasing tendency to reverse the emphasis and to capitalize upon the benefits of tutoring to the tutor, not only in teacher-education programs but in the elementary and secondary school programs. But the rationale behind student-to-student tutoring is the same whether the tutor is an elementary school pupil, secondary school pupil, college student, or even a college professor—one learns by teaching. In the cross-age tutoring concept, the age span is a key factor in the "learning by teaching" process.

Davis (1967) worked with only one age level to determine whether tutoring would produce positive changes in certain language skills that would be reflected in English marks and standardized test results. Selected and arranged into paired experimental and control groups were 120 ninth-grade boys and girls. Both groups consisted of one high-achieving tutor and one low-achieving tutee and used prepared material. The experimental-group pairs worked together as a pupil team, but the control-group pairs communicated only in writing. Evaluation by final English marks and the Stanford Achievement Test, subtest scores, indicated that the experimental high-achieving tutors made significant gains in English marks, paragraph meaning, and spelling, but the low-achieving tutees made no significant gains in any of the measures employed. The results suggested that the teaching of others stimulated the tutors to improve their language skills.

In cross-age tutoring both groups, the tutors and the tutees, should benefit. The Institute for Social Research concluded that though children in the same grade often helped each other, "recent experimentation reveals even greater advantages when older children became helpers for children three years or more their juniors" (Lippitt, 1969a, p. 41). The age difference enabled the younger children to receive help without comparing their skills unfavorably with those of their tutor.

The Institute went on to say that the reason that cross-age helping was effective was:

> . . . furthermore, older children, because they are children, offer resources adults cannot provide as well. They are closer in age and can often reach a child who is having difficulty when an adult cannot; they provide more realistic models of behavior; and they offer opportunity for friendship within the peer culture. Studies show a direct ratio between feelings of peer acceptance and ability to use one's potential (p. 41).

On the same issue, Cloward (1967a) stated that the non-professional in education had a unique contribution.

> There is a growing belief that important contributions to the educational development of culturally disadvantaged children can be made by other young people whose life experience provide a basis for empathy with the population being served (p. 604).

Lippitt and Lohman (1965) indicated several factors contribute to the success of cross-age tutoring on the tutee. The tutor communicates more effectively with the younger child because he speaks the learner's language. The performance of the older child provides a more realistic level of aspiration for the learner than the skills and standards of the adults which seem beyond the learner's grasp. The older child is less likely to be perceived as an "authority figure" with its inhibiting effects on pupils who have had unfortunate experiences with authority.

Cressey (1964) supported the necessity for the tutor to communicate more effectively because he speaks the learner's language when he stated:

> Just as men are relatively unaffected by radio and television dramatizations, they are unaffected by verbalizations presented by men they cannot understand and do not respect. On a general level, Festinger and his co-workers have provided extensive documentation of the principle that the persons who are to be changed and the persons doing the changing must have a sense of belonging to the same group (p. 14).

Spache (1970b) pointed out the great importance attached to the reduction of an adult authority figure in order to help tutees learn how to read.

> In general, retarded readers are inclined to be more aggressive and defensive, less insightful, and inept in knowing how to handle situations with adults. They tend to display a passive but defensive or negativistic attitude toward authority figures (p. 4).

The Sullivan Associates Programmed Reading (1968) attributed a slightly different effect upon the tutee as helping the success of their program than those mentioned previously. They ascribed the benefits of their programmed method in reading to learning at a pace suitable to the tutee, and enhancement of tutoring due to the need for immediate response followed by immediate feedback. Certainly older tutors can do this effectively with their tutees in a cross-age tutoring program.

As the study of cross-age tutoring increases, the areas of research seem to be becoming more refined. Hence, studies attempting to isolate the effect upon the tutor, rather than concern with both the tutor and the tutee, are being done. Werth (1968) assessed the reciprocal effect of high school senior low-achievers tutoring freshman low-achievers in English classes. His purpose was to compare the effectiveness of a tutoring program and of a traditional program in improving achievement for students registered in low-achiever English classes in reading comprehension, language usage skills, and spelling as well as student interest in the study of English. The program used 32 seniors to tutor 32 freshmen, and a control group of the same number of seniors and freshmen not involved in any tutoring activities. All students who participated in this study were given standardized reading tests as pre- and posttest reading measurements, and teacher rating as pre- and posttest measurements as to their interests in English. The seniors who acted as tutors showed improvement in interest in the subject of English when compared to the seniors in the traditional program, but analysis of variance failed to show any significant difference between the seniors who acted as tutors and the seniors in the traditional English program in the improvement of reading comprehension, language usage, or spelling skills. Also, while the freshmen who were tutored showed a statistically significant improvement in reading comprehension and interest in the subject of English when compared to the nontutored group, there was no statistical difference between the two freshmen groups in improvement of language usage and spelling skills. Werth's conclusion was that some of the recipro-

cal benefits of tutoring reported in other studies are more difficult to produce in high school senior low-achievers than in younger students.

Edler (1966) studied the use of students as tutors in an after-school study center of the public schools of Oakland, California. His purpose was to determine what effect this experience would have upon the person acting as a tutor. The tutors were paid one dollar an hour, worked in study centers under the supervision of a credentialed teacher, and tutored in grammar, mathematics, and history. Research data included case studies, analysis of school records, standardized tests, and regularly scheduled interviews. Conclusions revealed high motivation toward personal achievement and greater understanding of basic subject matter and methods of learning. Though no change in the psychological posture of the tutors was shown, the use of students as tutors was revealed as educationally sound and representative of a relatively untapped educational resource.

Hassinger and Via (1969) established a pilot program entitled, "One-to-One," which was launched during the summer of 1967 in Los Angeles to reach a population of elementary and secondary school students. Six school districts were selected and one hundred high school-age tutors were employed to work on a one-to-one basis for a six-week period. To demonstrate the hypothesis that the tutor will learn more than the tutee, a pre- and post-Nelson Denny Reading Test was administered to the tutors, and a pre- and post-Stanford Reading Test to the tutees. Mean gain for the total tutor group after six weeks was eight months difference in reading scores. Perhaps, more important than the measure of the reading growth was the positive attitude observed in the tutees, not only toward reading but in relation to their own self-esteem as well.

Rosner (1970) set up a cross-age reading program matching 13 fifth- and sixth-grade students with a like number of second- and third-grade students. All the students were considered remedial reading students. After a 10-week tutoring cycle, the second and third graders average a four month or more reading gain; the fifth and sixth graders, tutoring mornings and receiving remediation in the afternoons, averaged a one year or more reading gain as measured on the MacGinitie Vocabulary and Comprehensive Tests.

McWhorter and Levy (1971) utilized the cross-age tutoring effects upon the tutor in a little different fashion. High school graduates preparing for matriculation into the state universities in New York and who were from poverty areas enrolled in the *SEEK* program. The high school students then had seminars on skill building and became tutors for first, second, and third graders with reading problems. The idea was to help the tutors prepare academically for matriculation into college by their tutoring experiences. As measured by the Phonics Test for Teachers, the tutors gained 2.4 in one semester, while the tutees measured by the Temple University Word Recognition Test gained 1.1. The authors' conclusion was that the most significant result of the study was the improvement of the tutor's reading ability.

Attempts to narrow down the effects of cross-age teaching on the tutors even more by reporting on particular behaviors thought to be caused by the teaching are becoming more frequent and more refined. More and more has been done to attempt to isolate the variables, the varying effects upon the tutor, and hence to measure the process objectively.

Burrow (1970) narrowed his investigation of the effect on the tutor in cross-age tutoring to test the hypothesis that pupils tutored would have higher arithmetical computational skill scores than those who did not tutor; that pupils taught by female tutors would achieve higher mean gain scores than pupils taught by male tutors; and that pupils taught by tutors who placed above the median score on the pretest would achieve higher mean score gains than pupils taught by tutors who placed below the mean test score on the pretest. The experimental group consisted of 36 tutors who worked on a one-to-one basis for 30 minutes a day for 18 sessions over a 6-week period. Each tutoring session was followed by a 20-minute free period during which manipulative games of a non-mathematical nature were utilized for fun in an informal manner. The results showed that tutored students achieved higher gain scores in arithmetical computation skills than did the untutored students. It was further shown that female-taught students achieved higher gain scores than did male-taught students. The pupils who tutored showed no significant achievement over pupils who did not tutor. Further, pupils who were taught by academically more-able tutors showed no greater gain in arithmetical computational scores than did pupils who were taught by the academically less-able tutors.

Rust (1969) investigated the effects of tutoring on the tutor's academic achievement, social status in class, and overt behavior. It was theorized that the use of low-achieving, misbehaving, unpopular children as tutors would improve the tutor in these areas. Randomly selected from three sixth-grade classrooms were 36 students who were assigned to one of three groups. The experimental task of the first group was to teach arithmetic to a third-grade student. The second group was to act as buddies to third graders; they were to play, chat, read, or engage in any activity except arithmetic. The control group was to stay in the regular program and remain in their respective rooms. The results of the academic achievement data indicated a statistically significant difference in the achievement scores of the low tutor groups and the control group. Though there was a positive trend in the directions hypothesized, there were no statistically significant differences reflected in the sociogram data. The behavioral scores failed to indicate a trend in any direction.

Herbert Thelen (1969) gathered together all the total aspects of the cross-age tutoring process and further explored the benefits of the cross-age tutoring program. He sees school as a microcosm of the total system; the things wrong with the larger society are wrong with the school. Hence, some aspects of the helping relationships found within cross-age tutoring suggest the potential of its utilization in the schools. He mentioned: (a) establishment of teaching and learning as common goals, shared by parents, teachers, and pupils, (b) reduction of cross-cultural, cross-generational, and authority barriers to communication, (c) changing the social-psychological "climate" of the school from competiveness to concern for each other; reduction of anxiety which distorts children's views of each other and themselves, (d) enhancing the ego support and self-esteem of the tutors, (e) helping the students find a meaningful use of subject matter, thus assimilating it better and even coming to want more of it, (f) giving children an opportunity to take an adult role, and to imagine what it would be like to be part of the productive society, (g) training indigenous leaders for their community, (h) increasing by a very large factor the amount of teaching going on in the school, (i) individualizing instruction, (j) giving the younger child a big brother or sister who can guide him during the year, as if he were an adopted sibling, (k) tutoring advising on a standby basis, (l) picking up cues for the teaching of tutees,

(m) expanding the tutoring system to include parents, college students, and others, and (n) learning how to learn.

Having looked at cross-age tutoring from the tutees' viewpoint and from the reciprocal effect upon the tutor, it is also appropriate to examine the rationale behind *why* cross-age tutoring helps the tutors, sometimes more than the tutees.

Older, slower students are more readily able to help someone below grade level as they themselves are usually functioning below grade level. Being placed in a position of authority has an important motivational effect on the tutor; assisting other children helps the young tutor to develop, test, and internalize his own knowledge (Lippitt & Lohman, 1965).

This internalization of knowledge was analogous to Johnson's (1969) explanation of what educators know through their own intuitive experiences as teachers.

> Teachers frequently comment that the time during which they learned the most about a subject was when they first tried to teach it. However in educational circles, we do not yet have a rationale to account for the special impact which the act of teaching has upon the teacher (p. 1).

Johnson (1969) restated the principles of "retroflexive reformation" in order to fit the educational setting.

> The most effective mechanism for producing change will be found in groups organized so that anti-school students are induced to join with pro-school students for the purpose of changing anti-school students. When anti-school student A joins with some pro-school students to change anti-school student B, we can predict the greatest change in student A, not student B (p. 3).

Lippitt and Lohman (1965) presented some additional assumptions as to why the tutor is affected as he is:

> . . . involvement of older children in a collaborative program with adults to help younger children will have a significant socialization impact on the older children because of (1) the important motivational value of a trust-and responsibility-taking relationship with adults around a significant task, and (2) the opportunity to work through—with some awareness but at a safe emotional distance—some of their own problems of relationships with their siblings and peers.
> . . . a child will develop a more realistic image of his own ability and present state of development, and will gain a greater appreciation of his own abilities and skills, if he has

> an opportunity to help children younger than himself to acquire skills which he already has and to develop positive relationships with children older than himself (p. 114).

Training the Tutors

The programs for cross-age tutoring are set up differently. Strategies and techniques vary greatly.

Rosner (1970) described some of the necessary characteristics for a successful cross-age tutorial reading program. He recommended preplanning with school personnel; attitudinal-emphasis, orientation enrichment sessions with tutors; varied multisensory approaches coupled with multimedia learning centers; record keeping by tutors; ongoing supervision; analysis, direction, and evaluation by the teacher in charge; and community participation.

In considering these components, it becomes obvious that the out-of-school tutoring projects are going to be different from the in-school programs simply because of the difference in personnel involved.

Peggy Lippitt's (1969a) program was tailored for the schools and based on teacher involvement.

> Teachers can make or break a cross-age helping program . . . as a receiving teacher you must create a classroom attitude that cross-age helping is a desirable opportunity for everyone.
>
> If you are a sending teacher, you must regard the program as a valuable experience from which children can learn a great deal in academic and social skills they might not otherwise be motivated to attain . . . In all cases, the role of the teacher is to support growth rather than maintain control. You become a promoter of collaboration, an establisher of the norms of helpfulness rather than competition. You delegate responsibility and share the limelight. In turn, you get a high level of cooperation and commitment to learning (p. 99).

Inherent in the Cross-Age Helping Program Dissemination Materials which P. Lippitt, D. Lippitt, and Eiseman (1968) created as a training program for the public school teacher was the training of the sending and the receiving teachers.

Herbert Thelen (1968b), on the other hand, looked at the school cross-age tutoring program from a different angle. He has never attempted to design a precise set of dissemination materials which teachers could use to set up a program; but rather

he has set up some guidelines so that a program could be set up in a variety of ways.

> Let's assume that adults and children will be involved in the program. The adults involved will be one or more "directing teachers" responsible for the helpers and one or more of the "receiving teachers" responsible for the helpees. The children would be helpers (tutors) and helpees (tutees). The directing teacher will act as resource person—discussing lesson plans, behaviors of the helpees, ways of dealing with behaviors, and providing whatever else the helpers might need to develop a good teaching-learning situation.
>
> The receiving-teacher may or may not be involved in the training of the helpers. However such a person could assist in matching each helpee with a compatible helper (p. 23).

Though the directing teacher is a very important part of the cross-age program, this person is probably not the tutor's classroom teacher in most of the out of school programs. Likewise, the role of the receiving teacher may not even exist in most of the out of school programs. Though all cross-age programs have helpers and helpees, their preparation for the tutoring experiences varies. In some cases both tutor and tutee are prepared for the tutoring experience; in most cases just the tutor is prepared. The training of the tutors varies from program to program.

Herbert Thelen explained that there were three things to consider in setting up a training program for helpers: (a) the interpersonal relationships of a helping situation, (b) the preparation of helpers, and (c) possible materials for training helpers. Looking more closely at the first aspect:

> Almost all pupils possess some ability to act as tutors. However, there is need for *directed* training of helpers (p. 24).

On the other hand, Peggy and Ronald Lippitt (1968) suggested that:

> These observations indicate that both older and younger students need to be prepared to participate in a tutorial program. The older children must receive careful training in the attitudes and skills of taking responsibility as helpers, and the youngsters that they will tutor must have a demonstration that older peers can really be friendly and trustworthy (p. 24).

In both the training programs of Thelen and Lippitt, the old-

er students' training was based upon the "helping relationship" which was described by Carl Rogers (1969) as:

> It seems clear that relationships which are helpful have different characteristics from relationships which are unhelpful. These differential characteristics have to do primarily with the attitudes of the helping person on the one hand and with the perception of the relationship by the "helpee" on the other (p. 70).

In another article, Peggy Lippitt (1969a) went further:

> . . . but cross-age helpers need training to be successful. Without it, older children tend to boss youngsters because of their own frustrations at being bossed. Youngers are apt to distrust olders while at the same time copying their attitudes and behaviors.
>
> Training of older helpers should include development of a sympathetic, caring attitude toward youngers and skill practice in how to make them feel useful, successful, and important. Youngers need reassurance that everyone needs help; that it is not dumb to ask for it, or stupid to receive it (p. 41).

Realizing Herbert Thelen and Peggy Lippitt both believed strongly that the tutor needs special training, and that this training should be based on Roger's "helping relationship" idea, one can look more closely at the components of the training program within cross-age tutoring.

Helper-students in the Lippitts' program (1968) received what amounted to "inservice training" in weekly seminar sessions led by a classroom teacher or another person in the directing teacher" role. These sessions included discussion and role-played episodes, how to approach youngsters constructively, and how to help youngsters to accept instruction. The program design also included conferences with the teachers of the students who were being helped. In these sessions, the helpers learned the techniques of relating successfully to younger children and had the opportunity to discuss the problems they encountered in their attempt to help.

Thelen (1968b) spoke on the same issues when he discussed tutor training and the need for creation and maintenance of a good climate for interpersonal relations as essential to successful learning in the helping situation. The opportunity to exchange personal information about each other was considered very im-

portant in developing a good relationship between helper and helpee. Therefore, some time during the initial meeting was allowed for socializing. Because the first meeting of helpee and helper could create apprehensions for the helper, role-playing techniques were taught in the training program for helpers to deal with these feelings.

Though Lippitt and Lohman (1965) showed concern about the tutor, the material which the tutor used was focused on the needs of the tutee. After the older children had some orientation to the younger children, they had a training session with the teacher whom they were helping. The teacher explained how the drill—or whatever she had planned for the older children to give—would help the younger children learn. She explained to the older children how they were to carry out the assignment; and, to see if they understood the method and procedure before teaching a younger child, she gave them practice in working with each other. Each helper had a feedback session with his child's teacher to report what progress had been made, and to get an assignment for the next week's session.

Thelen (1968b) also cared about the effect on the tutor, but had a different approach.

> The ability of the helper to tutor depends, of course, on the tasks. Decisions concerning the tasks to be undertaken should initially be made by the directing teacher or the receiving teacher. In any helping relationship the helper should feel free to make decisions within the broad outlines of the tasks. As the tutoring skills of the helper increase, he can assume greater responsibility for selecting teaching materials.
>
> The extent and kind of training of helpers in subject matter should be determined by the receiving teacher. No basic texts should be used by helpers. Subject matter training of helpers who are low achievers is a possible way to increase their skills. . . . the specific needs of the younger child would actually direct the energies of the older child (p. 24).

Melaragno and Newmark (1969a, 1969c) planned a "tutorial community" project. The program involved an entire ghetto school of 1,500 students in intra- and intergrade tutoring, student self-tutoring, and tutoring by teachers, parents, and volunteers. Based on previous explorations, they emphasized four aspects of tutoring in their program: (a) careful diagnosis of each learner's needs, (b) provisions for a rich variety of instructional mate-

rials appropriate for meeting learning needs, (c) training of tutors in their roles, and (d) evaluation of tutorial effectiveness in terms of cognitive and affective growth of both learners and tutors.

Further to make tutoring most effective, the classroom teacher was the person who trained the pupils to serve as tutors. Pairings were made on the basis of acquisition of specific objectives; all pupils had opportunities to be tutors regardless of their overall standings in the class. Moreover, some of the tutor training could have been performed by the tutors themselves after they had been trained and had considerable tutoring experience.

Part of Melaragno and Newmark's (1969c) training of tutors was based on the assumption that modification of traditional classroom practices to change roles and functions of teachers was necessary. School was considered a hierarchical structure with teachers viewed as authority figures by pupils. This structure was seen as inhibiting to the learning process and in particular to the tutoring process which was based on the development of genuine positive relationships between individuals with common goals, who should be able to work together cooperatively and comfortably. Pupils had to be provided with opportunities to express and understand their feelings about themselves and their relationships with others. In order to develop and maintain a climate that facilitated freedom of expression, experimentation, effective growth, and interpersonal communication, provisions were made for what Carl Rogers called "encounter groups" or "intensive group experiences." A "workshop" usually consisted of 10 to 15 persons and a facilitator or leader; meetings were relatively unstructured, providing for a climate of maximum freedom for exploration of feelings and interpersonal communication.

The report, at the end of the first year of Melaragno and Newmark's (1969b) seven-year study, showed that in a few cases the older tutors got bored and stopped tutoring. The researchers found that most tutors required training for their roles. Their conclusions were to have, for the following six years: (a) training of tutors before they undertook tutoring, (b) regular support to tutors while tutoring, and (c) opportunities for tutors to have their concerns and suggestions heard, and for the tutors to participate in the planning of the system.

Deering (1966a) saw the training process of the tutors as a

continuous process utilizing orientation session, observations, consultations, demonstrations, and training sessions conducted throughout the year.

In the Manpower Administration's program (1968b), "Youth Tutoring Youth," community members were involved as supervisors and were responsible for training tutors, helping to recruit tutors and tutees, and testing and evaluating tutor and tutee progress. The supervisor was encouraged to use role-playing as a method of training tutors, workshops for training tutors in creating individual lessons for tutees, relating community trips and community resources to the tutee, and maintaining good relations with tutees. Ample commercial materials were made available to the tutors for use with their tutees. However, there was emphasis upon the tutors to use creativity in devising materials for their tutees in order to ensure more successful outcomes in working with each other.

In the Homework Helper Program (Deering, 1966b, no date), a manual for tutors was designed to supplement the training and supervision that the tutors received from the master teachers. The training manual opened with generalizations of the characteristics of third through sixth graders as a base of understanding for the tutors. The next section focused on the varying individual needs of children and presented desirable activities to be used in creating an individual program of instruction. These activities included showing affection, using praise, creating unambiguous and successful learning situations, and developing warm relationships with pupils. Comprising the major portion of the document were excerpts from former tutors designed to help tutors develop a good relationship with their pupils and function more effectively as tutors. The final section explored considerations in planning tutorial sessions including the use of time during a session and short- and long-range goals.

McCleary (1971) reported on the results of a tutorial reading project which utilized the programmed tutoring developed at Indiana University by Ellson and his associates. This method of tutor training used systematically programmed tutoring procedures so that tutors with no previous professional training could be trained to a high degree of effectiveness. The material showed what and how to teach and was used in McCleary's project to train adult paraprofessionals to teach reading to first graders as a preventive measure against reading failure. It is con-

ceivable that this material could be adapted for youth-tutoring-youth.

In another attempt to improve the tutoring programs, Harrison (1969) investigated two tutor-training variables: prescribed tutor-training procedures, and professional versus nonprofessional trainers. Student tutors were trained by two professional educators and two nonprofessionals using the prescribed training procedures. A control group received no training. The students who received training learned to use the following tutoring techniques: (a) do things to put the learner at ease, (b) clarify the prescribed task, (c) teach the child how to verify his answer, (d) have the learner read each problem out loud, (e) have the learner mark his answer before providing any feedback, (f) have the child verify his answer, (g) avoid punishing behavior, (h) provide the learner with verbal praise when it is appropriate, (i) reward the child when it is appropriate, and (j) on designated problems, check for mastery. Mastery of the 10 specified tutoring techniques was measured by observation scales developed especially for the study. The mean scores for the three treatment groups provided the first dependent measure of the effect of the two treatment variables. During the week following the individualized tutoring, a criterion test was administered to the children who had been tutored. The mean scores of these children provided the second dependent measure of the effect of the two treatment variables.

Following the training of the two experimental groups, all three groups were randomly assigned to work with first graders. Results showed that learners tutored by trained tutors gained significantly over learners tutored by untrained tutors. However, tutors trained by nonprofessional trainers tended to have higher mean scores than the tutors trained by the professional educators; the difference did not reach the .05 level of significance.

SUMMARY AND IMPLICATIONS FOR SCHOOLS

Historically most of the tutoring studies have been concerned with the impact on the students being tutored. Lately there appears to be a tendency to look at the impact on the tutor, and in some cases, even to focus the direction of the program on that impact; a few recent studies have been concerned with discovering ways to improve the tutoring program itself. Even the most

precise of the studies have not been able consistently to isolate the factors that lead to the successful tutoring experiences for the tutors. In fact, in some cases, it seems the tutors were successful in spite of the conditions in which they tutored.

Two generalizations seem appropriate at this point: (a) the focus of the materials and the skills has been on the tutee even when the major concern of the researcher was with the tutor, and (b) the teacher of the tutors has always adjusted her curriculum to support that of the teacher of the younger students so that her older students could tutor them.

The above generalizations suggest that classroom teacher can take advantage of the effect of tutoring upon the tutor through the commonalities that exist within the school curriculum. For example, a reading skill such as the use of the dictionary is involved at all levels from pre-primer to adult. Many adults still do not use the dictionary effectively. Some assumptions about this phenomenon could be that the individual never felt the need to learn to use the dictionary and/or never made the generalization from some workbook page to actual usage of the dictionary. One way to provide relevance could be to ask a student to teach a younger student this skill. If the student wanted to help the younger student, he would see the need in learning to use the dictionary. In addition, in actually tutoring the younger student, the tutor would be provided with a unique opportunity to transfer the skill from a knowledge level of learning to an application of knowledge level of learning through the principle of learning by teaching.

The implication for the classroom teacher who is looking for a workbook exercise to teach some skill, such as the use of the dictionary, is to look instead for a teacher of younger students who wants to teach her students that same skill. Both groups would benefit, but it would appear that the tutor would benefit more than he has in the past—and not at the expense of the tutee.

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